Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

- 1. (currently amended) A white light-emitting OLED device, comprising:
- a) [[a]] <u>an spaced</u> anode and <u>a</u> cathode <u>spaced apart from one</u> another;
 - b) a hole-transporting layer disposed over the anode;
- c) a first light-emitting layer disposed on the hole-transporting layer including an electron-transporting material host and a yellow light-emitting dopant for producing yellow light;
- d) a second light-emitting layer disposed on the first lightemitting layer and including a blue host and a blue dopant for producing blue light; and
- e) an electron-transporting layer disposed between the cathode and the second light-emitting layer.
- 2. (original) The white light-emitting OLED device of claim 1 wherein the first light-emitting layer host includes Alq, Gaq, Inq, or Mgq.
- 3. (original) The white light-emitting OLED device of claim 1 wherein the blue host includes ADN or TBADN.
- 4. (original) The white light-emitting OLED device of claim 1 wherein the yellow light-emitting dopant includes

$$R_{1}$$
 R_{2}
 R_{3}

wherein R₁, R₂, R₃, R₄, R₅, R₆ represent one or more substituents on each ring where each substituent is individually selected from the following groups:

Group 1: hydrogen, or alkyl of from 1 to 24 carbon atoms;

Group 2: aryl or substituted aryl of from 5 to 20 carbon atoms;

Group 3: carbon atoms from 4 to 24 necessary to complete a fused aromatic ring of phenyl, naphthyl, anthracenyl, phenanthryl, pyrenyl, or perylenyl;

Group 4: heteroaryl or substituted heteroaryl of from 5 to 24 carbon atoms such as thiazolyl, furyl, thienyl, pyridyl, quinolinyl or other heterocyclic systems, which may be bonded via a single bond, or may complete a fused heteroaromatic ring system;

Group 5: alkoxylamino, alkylamino, or arylamino of from 1 to 24 carbon atoms; or

Group 6: fluorine, chlorine, bromine or cyano.

5. (original) The white light-emitting OLED device of claim 4 wherein the yellow light-emitting dopant includes 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR), with the following formulas:

or

6. (original) The white light-emitting OLED device of claim 5 wherein the concentration of yellow light-emitting dopant 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is in a range of from greater than 0 and less than 30% by volume of the electron-transporting material host.

- 7. (original) The white light-emitting OLED device of claim 5 wherein the concentration of yellow light-emitting dopant 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is preferably in a range of from greater than 0 and less than 5% by volume of the electron-transporting material host.
- 8. (original) The white light-emitting OLED device of claim 1 wherein the thickness of the first light-emitting layer is between 5 nm to 100 nm.
- 9. (original) The white light-emitting OLED device of claim 1 wherein the thickness of the second light-emitting layer is between 5 nm to 100 nm.
- 10. (original) The white light-émitting OLED device of claim 1 wherein the blue dopant includes distyrylamine derivatives as shown by the formula

11. (original) The white light-emitting OLED device of claim 1 wherein the blue-emitting dopant includes perylene and its derivatives.

12. (currently amended) The white light-emitting OLED device of claim 1 wherein the blue dopant is represented by the following formulas:

- 13. (currently amended) The white light-emitting OLED device of claim 12 wherein the concentration of blue-emitting dopant[[s]] is in the range of greater than 0 and less than 10% by volume of the blue host.
- 14. (original) The white light-emitting OLED device of claim 12 wherein thickness of the hole-transporting layer is between 10 nm-300 nm.
- 15. (currently amended) A white light-emitting OLED device, comprising:
- a) [[a]] <u>an spaced</u> anode and <u>a</u> cathode <u>spaced apart from one</u> another;
 - b) a hole-transporting layer disposed over the anode;
- c) a first light-emitting layer disposed on the hole-transporting layer including a first electron-transporting material host and a first yellow light-emitting dopant for producing yellow light;
- d) a second light-emitting layer disposed on the first lightemitting layer and including a blue host and a blue dopant for producing blue light; and
- e) at least one electron-transporting layer adjacent to the second light-emitting layer, and disposed between the second light-emitting layer

and the cathode, comprising a second electron-transporting material host and a second yellow light-emitting dopant.[[.]]

16. (original) The white light-emitting OLED device of claim 15 wherein the first electron-transporting material host and the second electron-transporting material hostare the same or different.

17. Cancelled

- 18. (original) The white light-emitting OLED device of claim 15 wherein the first electron-transporting material host and the second electron-transporting material host includes Alq, Gaq, Inq, or Mgq.
- 19. (original) The white light-emitting OLED device of claim 15 wherein the blue host in the second light-emitting layer includes ADN or TBADN.
- 20. (original) The white light-emitting OLED device of claim 15 wherein the first or second yellow dopants include

$$R_{1}$$
 R_{2}
 R_{5}
 R_{4}
 R_{3}

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 represent one or more substituents on each ring where each substituent is individually selected from the following groups:

Group 1: hydrogen, or alkyl of from 1 to 24 carbon atoms;

Group 2: aryl or substituted aryl of from 5 to 20 carbon atoms;

Group 3: carbon atoms from 4 to 24 necessary to complete a fused aromatic ring of phenyl, naphthyl, anthracenyl, phenanthryl, pyrenyl, or perylenyl;

Group 4: heteroaryl or substituted heteroaryl of from 5 to 24 carbon atoms such as thiazolyl, furyl, thienyl, pyridyl, quinolinyl or other heterocyclic systems, which may be bonded via a single bond, or may complete a fused heteroaromatic ring system;

Group 5: alkoxylamino, alkylamino, or arylamino of from 1 to 24 carbon atoms; or

Group 6: fluorine, chlorine, bromine or cyano.

21. (original) The white light-emitting OLED device of claim 15 wherein the first and second yellow-emitting dopants includes 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR), with the following formulas:

(DBzR);

- 22. (original) The white light-emitting OLED device of claim 15 wherein the concentration of the first and the second yellow-emitting dopants 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is in a range of from greater than 0 and less than 30% by volume of the their corresponding host.
- 23. (original) The white light-emitting OLED device of claim 15 wherein the concentration of yellow-emitting dopants 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is preferably in a range of from greater than 0 and less than 5% by volume of their corresponding host.
- 24. (original) The white light-emitting OLED device of claim 15 wherein the thickness of the first emission layer is between 5 nm to 100 nm.
- 25. (original) The white light-emitting OLED device of claim 15 wherein the thickness of the second emission layer is between 5 nm to 100 nm.

26. Cancelled

27. (original) The white light-emitting OLED device of claim 15 wherein the blue dopant includes distyrylamine derivatives includes

- 28. (original) The white light-emitting OLED device of claim 15 wherein the blue-emitting dopant includes perylene and its derivatives.
- 29. (currently amended) The white light-emitting OLED device of claim 15 wherein the blue dopant is represented by the following formulas:

B-2

B-3

-13-

- 30. (currently amended) The white light-emitting OLED device of claim 15 wherein the concentration of blue-emitting dopant[[s]] is in the range of greater than 0 and less than 10% by volume of the blue host material.
- 31. (original) The white light-emitting OLED device of claim 15 wherein thickness of the hole-transporting layer is between 10-300 nm.
- 32. (currently amended) A white light-emitting OLED device, comprising:
- a) [[a]] <u>an spaced</u> anode and <u>a</u> cathode <u>spaced apart from one</u> another;
 - b) a first hole-transporting layer disposed over the anode;
- c) a second hole-transporting layer disposed over the first hole-transporting layer and including a hole-transporting material host and a third yellow light-emitting dopant;
- d) a first light-emitting layer disposed on the second holetransporting layer including a first electron-transporting material host and a first yellow light-emitting dopant for producing yellow light;
- e) a second light-emitting layer disposed on the first lightemitting layer including a blue host and a blue dopant for producing blue light; and
- f) an electron-transporting layer disposed between the cathode and the second light-emitting layer.
- 33. (original) The white light-emitting OLED device of claim 32 wherein the first and third yellow dopants are the same or different.
- 34. (original) The white light-emitting OLED device of claim 32 wherein the first electron-transporting material host includes Alq, Gaq, Inq, or Mgq.
- 35. (original) The white light-emitting OLED device of claim 32 wherein the blue host in the second emission layer includes ADN or TBADN.

36. (original) The white light-emitting OLED device of claim 32 wherein the first or third yellow dopants include

$$R_{5}$$
 R_{6}
 R_{4}
 R_{3}

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 represent one or more substituents on each ring where each substituent is individually selected from the following groups:

Group 1: hydrogen, or alkyl of from 1 to 24 carbon atoms;

Group 2: aryl or substituted aryl of from 5 to 20 carbon atoms;

Group 3: carbon atoms from 4 to 24 necessary to complete a fused aromatic ring of phenyl, naphthyl, anthracenyl, phenanthryl, pyrenyl, or perylenyl;

Group 4: heteroaryl or substituted heteroaryl of from 5 to 24 carbon atoms such as thiazolyl, furyl, thienyl, pyridyl, quinolinyl or other heterocyclic systems, which may be bonded via a single bond, or may complete a fused heteroaromatic ring system;

Group 5: alkoxylamino, alkylamino, or arylamino of from 1 to 24 carbon atoms; or

Group 6: fluorine, chlorine, bromine or cyano.

37. (original) The white light-emitting OLED device of claim 32 wherein the first and third yellow light-emitting dopants includes 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR), with the following formulas:

or

38. (original) The white light-emitting OLED device of claim 32 wherein the concentration of the first and the third yellow light-emitting dopants 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methyl-benzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is in a range of from greater than 0 and less than 30% by volume of the their corresponding host.

- 39. (original) The white light-emitting OLED device of claim 32 wherein the concentration of yellow light-emitting dopants 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is preferably in a range of from greater than 0 and less than 5% by volume of their corresponding host.
- 40. (original) The white light-emitting OLED device of claim 32 wherein the thickness of the first light-emitting layer is between 5 nm to 100 nm.
- 41. (original) The white light-emitting OLED device of claim 32 wherein the thickness of the second light-emitting layer is between 5-100 nm.
- 42. (original) The white light-emitting OLED device of claim 32 wherein the thickness of the electron-transporting layer is between 5-100 nm.
- 43. (original) The white light-emitting OLED device of claim 32 wherein the blue dopant includes distyrylamine derivatives includes

44. (original) The white light-emitting OLED device of claim 32 wherein the blue-emitting dopant includes perylene and its derivatives.

45. (currently amended) The white light-emitting OLED device of claim 32 wherein the blue dopant is represented by the following formulas:

- 46. (currently amended) The white light-emitting OLED device of claim 32 wherein the concentration of blue-emitting dopant[[s]] is in the range of greater than 0 and less than 10% by volume of the blue host material.
 - 47. Cancelled
 - 48. Cancelled
- 49. (original) The white light-emitting OLED device of claim 48 wherein the first, second, and third yellow dopants are the same or different.
- 50. (original) The white light-emitting OLED device of claim 48 wherein the first or second electron-transporting material host includes Alq, Gaq, Inq, or Mgq.

- 51. (original) The white light-emitting OLED device of claim 48 wherein the blue host includes ADN or TBADN.
- 52. (original) The white light-emitting OLED device of claim 48 wherein the first, second, or third yellow dopants include

$$R_{1}$$
 R_{2}
 R_{3}
 R_{4}
 R_{3}

wherein R_1 , R_2 , R_3 , R_4 , R_5 , R_6 represent one or more substituents on each ring where each substituent is individually selected from the following groups:

Group 1: hydrogen, or alkyl of from 1 to 24 carbon atoms;

Group 2: aryl or substituted aryl of from 5 to 20 carbon atoms;

Group 3: carbon atoms from 4 to 24 necessary to complete a fused aromatic ring of phenyl, naphthyl, anthracenyl, phenanthryl, pyrenyl, or perylenyl;

Group 4: heteroaryl or substituted heteroaryl of from 5 to 24 carbon atoms such as thiazolyl, furyl, thienyl, pyridyl, quinolinyl or other heterocyclic systems, which may be bonded via a single bond, or may complete a fused heteroaromatic ring system;

Group 5: alkoxylamino, alkylamino, or arylamino of from 1 to 24 carbon atoms; or

Group 6: fluorine, chlorine, bromine or cyano.

53. (original) The white light-emitting OLED device of claim 48 wherein the first, second, and third yellow-emitting dopants includes 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methyl-

benzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR), with the following formulas:

or

54. (original) The white light-emitting OLED device of claim 48 wherein the concentration of the first, second, and third yellow-emitting dopants 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methyl-benzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-

naphthyl)naphthacene (NR) is in a range of from greater than 0 and less than 30% by volume of the their corresponding host.

- 55. (original) The white light-emitting OLED device of claim 48 wherein the concentration of yellow-emitting dopants 5,6,11,12-tetraphenylnaphthacene (rubrene); 6,11-diphenyl-5,12-bis(4-(6-methylbenzothiazol-2-yl)phenyl)naphthacene (DBzR) or 5,6,11,12-tetra(2-naphthyl)naphthacene (NR) is preferably in a range of from greater than 0 and less than 5% by volume of their corresponding host.
- 56. (original) The white light-emitting OLED device of claim 48 wherein the thickness of the first light-emitting layer is between 5-100 nm.
- 57. (original) The white light-emitting OLED device of claim 48 wherein the thickness of the second light-emitting layer is between 5-100 nm.
- 58. (original) The white light-emitting OLED device of claim 48 wherein the thickness of the electron-transporting layer(s) is between 5-100 nm.
- 59. (original) The white light-emitting OLED device of claim 48 wherein the thickness of the second hole-transporting layer is between 1 nm to 50 nm.
- 60. (original) The white light-emitting OLED device of claim 48 wherein the blue dopant includes distyrylamine derivatives includes

- 61. (original) The white light-emitting OLED device of claim 48 wherein the blue dopant includes perylene and its derivatives.
- 62. (currently amended) The white light-emitting OLED device of claim 48 wherein the blue dopant is represented by the following formulas:

B-2

B-3

B-4 B-5 B-6 B-7 ; and or **B-8**

- 63. (currently amended) The white light-emitting OLED device of claim 48 wherein the concentration of blue-emitting dopant[[s]] is in the range of greater than 0 and less than 10% by volume of the host material.
- 64. (original) The white light-emitting OLED device of claim 48 wherein thickness of the first hole-transporting layer is between 10-300 nm.
 - 65. Cancelled